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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,185	12/20/2001	Yoshihiro Izumi	46315-C (70904)	1774
21874	7590	11/05/2003	EXAMINER	
EDWARDS & ANGELL, LLP			PARKER, KENNETH	
P.O. BOX 9169			ART UNIT	
BOSTON, MA 02209			PAPER NUMBER	

2871

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,185

Applicant(s)

IZUMI, YOSHIHIRO

Examiner

Kenneth A Parker

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 14-19, 27-46 is/are pending in the application.
- 4a) Of the above claim(s) 32, 33 and 45 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-19, 41 and 43 is/are allowed.
- 6) ☒ Claim(s) 1-7, 27-31, 34-40, 42, 44 and 46 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/618,833.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language is suppressed even if the index of refraction fluctuates is indefinite, as there is no way to determine how much suppression would be required, or under what conditions the fluctuations would occur.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2871

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP2-093683.

Honjo shows liquid crystal cells with the pairs of substrates and the chamfered edge (arc shape). See figure 1.

Lacking from the disclosure are the features of claims 3-6 which list features only considered conventional. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains). The term chamfered is a product by process limitation, which, if the edge of the reference is arced or slanted, does not distinguish the claimed device. As product by process limitations are given weight only in so far as they produce a different product, this limitation does not patenably distinguish the reference.

Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP 1-0251013.

Honjo shows all of the claimed features (multiple panel and chamfer). See figures 1 and 3. The term chamfered is a product by process limitation, which, if the edge of the reference is arced or slanted, does not distinguish the claimed device. As product by process limitations are given weight only in so far as they produce a different product, this limitation does not patenably distinguish the reference.

Claims 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Honjo JP 63-167332.

Honjo shows multiple panels with a circular arc shape (chamfer substrate). See figure 1. The term chamfered is a product by process limitation, which, if the edge of the reference is arced or slanted, does not distinguish the claimed device. As product by process limitations are given weight only in so far as they produce a different product, this limitation does not patenably distinguish the reference.

Claims 34-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nam 5711693.

Nam et al discloses a liquid crystal device formed with multiple panels (tiles), adhesives, etc. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is

Art Unit: 2871

nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3 μ m particles, which would be used for polishing on the order of 3 μ m. The powder polishing techniques are lapping techniques, which, according to the Handbook of Optics, page 40.4, polish to about 1 μ m (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1 μ m (page 40.4, top of page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Claims 34-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP 1-0251013 in view of Nam 5711693.

Honjo discloses everything except the positional accuracy and surface finishing precision. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3um particles, which would be used for polishing on the order of 3um. The powder polishing techniques are lapping techniques, which, according to the Handbook of Optics, page 40.4, polish to about 1um (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1um (page 40.4, top of page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Claims 27-31, 34-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP2-093683 in view of Nam 5711693.

Honjo discloses everything except the positional accuracy and surface finishing precision. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3um particles, which would be used for polishing on the order of 3um. The powder polishing techniques are lapping techniques, which, according to the Handbook

of Optics, page 40.4, polish to about 1um (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1um (page 40.4, top of page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Allowable Subject Matter

Claims 14-19, 41, 43 are allowed.

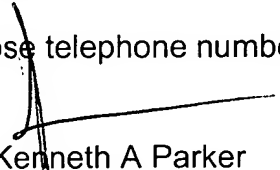
Art Unit: 2871

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 703-305-6202. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Kenneth A Parker
Primary Examiner
Art Unit 2871

11/03/2003